

CLAIMS

1. A recharging device of batteries (6), which can also be used as an exhibitor of battery packs or packagings (5) in sales points, comprising at least a supporting element (1, 17, 51), which includes a series of seats or housings (2, 18) for the insertion and/or linking of packs of batteries (5) on sale, and means (20, 30) for the charging, recharging and/or maintenance of the electric charge, electrically connected to said seats or housings (2, 18) of the recharging device.

2. The battery recharging device (6) according to claim 1, characterized in that it also comprises at least one suitable housing (4), which can be used for the temporary resting of one of said battery packs (5), whose charge level is to be checked.

3. The battery recharging device (6) according to claim 1, characterized in that each packaging (5) of batteries (6) contains a series of batteries (6), connected in series to each other, of which at least two terminals (7, 8, 80) are accessible from the outside of the packaging (5) for connection to the recharging and/or maintenance means (20, 30) of the electric charge.

4. The battery recharging device (6) according to claim 1, characterized in that said recharging and maintenance

means of the electric charge, by automatically recognizing, thanks to a control logic (50), the housing of at least one pack of batteries (5), immediately activates a charging cycle of said housing of the battery pack (5)
5 inside at least one of said seats (2, 18).

5. The battery recharging device (6) according to claim 1, characterized in that each of said housings or seats (2, 18) comprises signaling means, suitable for indicating the charge level and/or the arrival at the maximum
10 charge level of the battery pack (5) inserted.

6. The battery recharging device (6) according to claim 3, characterized in that said two terminals (7, 8, 80) are situated at different distances (D1, D2, D3), in order to be able to automatically select the necessary
15 charge levels for the various types of batteries (6) to be charged.

7. The battery recharging device (6) according to claim 3, characterized in that said at least one supporting element (1, 17, 51) comprises, in correspondence with
20 each seat or housing (2, 18), at least one metallic body (27), pushed by at least a first conductor element (28), of the elastic type, which ensures the electric contact with said at least two terminals (7, 8, 80) of the battery pack (5), whereas at least a second conductor element
25 (29) produces the electric contact with said re-

charging and/or maintenance means of the electric charge.

8. The battery recharging device (6) according to claim 3, characterized in that at least one of said terminals (7, 8, 80) contacts at least one spring nail (38), in turn electrically connected to said recharging and/or maintenance means (20, 30) of the electric charge.

9. The battery recharging device (6) according to claim 8, characterized in that said battery packaging or pack (5) is held in position thanks to a notched profile (42) of said at least one supporting element (1, 17, 51), which is engaged with an incision situated on the packaging (5).

10. The battery recharging device (6) according to claim 3, characterized in that said battery packaging or pack (5) has at least one guiding wing (46) for insertion inside said seats and/or housings (2, 18) and is also equipped with at least one inductor element (44) and/or at least one rectifier diode (45), said at least one supporting element (1, 17, 51) comprising at least one magnetic circuit (47), with polar expansions, on which at least one coiling (48) is wound, so that, upon insertion of the packaging (5) in the respective seat and/or housing (2, 18), said inductor element (44), inserted between said polar expansions of the magnetic circuit (47), forms an inductive magnetic coupling with said coiling (48), so

as to transfer the electric energy, supplied by an alternating current generator (49) and rectified by said diode (45), to the batteries (6) of the packaging (5).

11. The battery recharging device (6) according to claim 5 1, characterized in that said at least one supporting element (1, 17, 51) comprises automatic selection and supply means of at least one of said battery packs (5), driven by a control logic (50), when a selection is effected by a user by means (10, 11, 12, 32, 33, 34) situated on the outer casing (35) of the recharging device. 10

12. The battery recharging device (6) according to claim 11, characterized in that said at least one supporting element (1, 17, 51) includes a series of columns (13, 14, 16, 20, 26, 37), inside which the battery packagings or 15 packs (5) are arranged, which are introduced into appropriate seats (18) and kept in a horizontal position by means of shelves (15).

13. The battery recharging device (6) according to claim 11, characterized in that said control and running logic 20 (50) selects at least one battery pack (5) containing the most highly charged batteries (6) of the type selected.

14. The battery recharging device (6) according to claim 11, characterized in that said automatic selection and supply means comprise at least one pin (91) of an expeller, kept in rest position by at least a first elastic 25

element (92), and at least one coiling, which, after the passage of an electric current, generates an entrainment force of said pin (91) of the compression of said first elastic element (92), which produces the expulsion of the packaging (5) and the falling of said packaging (5) onto a collection surface (36).

15. The battery recharging device (6) according to claim 14, characterized in that said at least one supporting element (1, 17, 51) is electrically connected, by means of at least a second elastic element (96), with a body (94), associated with at least a third elastic element (95) and suitable for contacting at least one terminal (80) of the battery pack (5) for the charging of the batteries (6) contained therein.

16. The battery recharging device (6) according to claim 1, characterized in that said battery packaging or pack (5) is made up of two symmetrical shells (23, 24) which mechanically withhold the batteries (6) and leave the relative terminals free, so that each battery (6) can be charged individually.

17. The battery recharging device (6) according to claim 11, characterized in that said battery packagings or packs (5) are stacked on top of each other, in correspondence with each column (13, 14, 20, 16, 26, 37).

18. The battery recharging device (6) according to claim

11, characterized in that said automatic selection and supply means comprise at least one motor (28), whose rotation produces the moving of at least one pushing element (27) which causes the release of each battery packaging or pack (5) from the withholding elastic elements (29, 43).

19. The battery recharging device (6) according to claim 11, characterized in that said automatic selection and expulsion means comprise at least one pushing element (27B), moved by at least one belt (26B), in turn activated by at least one motor (28B).